Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Multifaceted Impact of COVID-19 on Dental Practice: American Dental Professionals Prepared and Ready During Unprecedented Challenges

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Multifaceted Impact of COVID-19 on Dental Practice: American Dental Professionals Prepared and Ready During Unprecedented Challenges

ABSTRACT

Background. The purpose of this study was to evaluate the multifaceted impact of the COVID-19 pandemic on dental practices and their readiness to resume dental practice during arduous circumstances.

Methods. An observational survey study approved by Institutional Review Board was distributed to dental practitioners and their office staff using Qualtrics software. The survey was completed anonymously. Data were analyzed using R statistical computing software, Chi-Square test and Wilcoxon rank-sum test.

Results. Nearly all participants (98%) felt prepared to resume dental practice and were confident of the safety precautions (96%). Only 21% of dentists felt COVID pandemic changed their dental treatment protocols, with at least two-thirds agreed that precautions would adversely influence their efficiency. Although majority were satisfied with the resources their dental practice provided for support during the pandemic (95%), majority were concerned about the impact on their general health and safety (77%) and to their dental practice (90%), found working during the pandemic difficult (~60%), and agreed there are challenges and long-term impacts on the dental profession (>75%).

Conclusions. Dental professionals, although profoundly impacted by COVID-19 pandemic and at high risk of COVID-19 infection, were very confidently prepared to resume dental practice during most challenging circumstances.

Practical Implications. The pandemic has significantly impacted dental practitioners; thus, the need to formulate psychological interventions and safety precautions to mitigate its impact. Further research should evaluate long-term effects on dentistry and oral health, and interceptive measures for better communications and programming around future challenges.

Key Words. Pandemic; COVID-19; dental practice; dentists.

BACKGROUND

The ongoing global COVID-19 pandemic is caused by a severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), a highly contagious novel coronavirus (2019-nCoV) that causes COVID-19 infectious disease. Infected patients most notably presented with clinical symptoms of dry cough, dyspnea, fever, and bilateral lung infiltrates on imaging.[1] Later, it was found that COVID-19 can be manifested in almost every organ system of the body with highly variable clinical symptoms. It was first identified in Wuhan, China in December, 2019,[1,2] then declared by World Health Organization a Public Health Emergency of International Concern in late January 2020, and shortly after a pandemic in March 2020.[3,4]

According to recent COVID-19 statistical data, as of March 24, 2021, around 124 million cases worldwide (and around 30 million in USA) have been confirmed, resulting in approximately 2.74 million deaths (544,000 in USA), making it one of the deadliest pandemics in history. The USA has had nearly a quarter of the world's cases, and a fifth of all deaths. More Americans have died from COVID-19 than during World War II.[4]

COVID-19, was reported as zoonotic, to more likely affect older males with comorbidities/pre-existing health conditions (such as heart or respiratory/lung disease, obesity and diabetes), with varying incubation period between 7-24 days, and clinical symptoms ranging from none to mild (may resemble flulike symptoms and seasonal allergies) to very severe, with possible life-threatening complications and Acute Respiratory Distress Syndrome.[4,5] According to Centers for Disease Control and Prevention (CDC), possible symptoms may include but not limited to: fever/chills, cough, shortness of breath, fatigue/myalgia, headache, sore throat, loss of taste/smell, congestion, nausea/vomiting and diarrhea. Older adults and those with severe underlying medical conditions appear to be at higher risk for developing more serious complications.[6] COVID-19 is transmitted mainly through person-to-person contact (respiratory droplets and aerosols), and also via contaminated surfaces.[6-8]

CDC Guidance for dental settings, the standard of care for COVID-19 infection control, recognizes dental settings to have unique characteristics that warrant strict infection control precautions/protocols to be put in place during the pandemic to minimize harm and risk of potential exposure to personnel and patients. Prevention actions outlined by CDC included personal protective equipment (PPE-for healthcare personnel) and wearing masks covering nose and

mouth, 6-feet social distancing, avoiding crowds and poorly ventilated indoors spaces, washing hands often with soap and water, and getting vaccinated as soon as a vaccine is available.[6]

The handpieces and ultrasonic instruments used during dental procedures unavoidably generate aerosols containing blood and saliva droplets, which potentially could result in the airborne spreading of COVID-19.[9-13] Consequently, the American Dental Association, in concordance with CDC guidelines, suggested dental practitioners limit their interventions to emergency treatments in the early days of the pandemic. They subsequently developed a guidance toolkit for management of dental practice to help protect patients, staff and dentists as offices returned to providing non-emergent care during the pandemic.[14]

A New York Times magazine publication ranked health professions at the highest risk of COVID-19 infection, amongst which dentistry was placed at the top.[12,13,15,16]

Miscellaneous studies in various countries (North America, Israel, Hong Kong, China, Turkey, Italy, Saudi Arabia, Pakistan, Poland, Brazil, and others) found significant impacts of COVID-19 on dental practice with elevated stress levels, concerns, fear and anxiety reported by dental practitioners due to increased risk of infection and significantly increased infection protocols.[17-29] Therefore, an elevated need for psychological support and counselling services for healthcare workers has been found to be crucial to maintaining a healthy workforce during the pandemic.[13,25,26]

The majority of dental professionals were aware of dental treatment protocol changes and modified services according to CDC guidelines.[12,13,16,23,25,27,29-31]

The COVID-19 pandemic, its associated policies, and the steps taken to contain its spread have profoundly impacted the dental practice economy and the health system.[13,16,25,29,32,33]

The rapid and extensive spread of COVID-19 has become a major concern for the dental profession. The purpose of this study was to assess the impact of the COVID-19 pandemic on dental practices in Texas, USA; the short- and long-term effect on the dental profession, including economic, health and psychological. The safety, preparedness and confidence levels of dental practitioners as they resumed dental practice during the pandemic was assessed. This study was distributed during a peak period of COVID-19 spikes in the State of Texas, that was declared a COVID hotspot in USA as the State was among the first in the country to partially reopen and ease restrictions after the lockdown. The large State of Texas has a diverse population with many dental practitioners trained outside the State.

METHODS

An observational survey study approved by Institutional Review Board, engaged dental practitioners who are members of Texas Dental Association (TDA), San Antonio District Dental Society (SADDS), and the South Texas Oral Health Network (STOHN), a Texas Dental Practice-Based Research Network (PBRN). The survey that consisted of 25 items was piloted among 3-5 dental practitioners that tested its accessibility and usability as well as the time for completion. The survey study was delivered online using the web-based survey platform Qualtrics XM™ (Version August, 2020), and distributed via an anonymous survey link to members of the professional organizations. The Qualtrics survey was protected from ballot box stuffing to prevent participants from taking the survey more than once, since a member of one organization may also be a member of another participating organization (to prevent duplicate responses). Study recruitment took place from August 14, 2020, through October 19, 2020. Responses were voluntary and anonymous, and participants were not offered any incentive to complete the survey.

Dental practitioners received an e-mail invitation (that also encouraged their dental staff participation) from the representative of the participating organizations explaining the study and inviting them to voluntarily participate using a web link to the questionnaire. Participants were licensed in the U.S., members of dental associations and/or research networks, and those who maintained an active e-mail address where they could be contacted. Variables assessed in the survey included: participant demographics, sources of information related to COVID-19, resources and working satisfaction, concerns, challenges, and the impact of COVID-19. Participants were also given a section to leave comments about their experience during the COVID-19 pandemic. A subset of participants, those who are involved in clinical dental practice/direct patient care, were asked additional (clinically-related) questions about challenges, concerns, treatment changes, safety precautions and preparedness while resuming dental practice, as well as views on dentistry as a career that has been impacted during the pandemic.

The survey is presented in online additional material. Scales for questions and methodology used to compile responses into positive vs negative responses are described in the results section.

Statistical Analysis: Data obtained from the survey responses were analyzed using R statistical computing software ((R Core Team (2020). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria). Statistical comparisons of responses were done by the following demographic groups: Gender, age group, and years of experience in dental practice. The reported p-values are from the Chi-Square test. In addition to p-values, 95% confidence intervals (CI) for the proportions in each group are reported, along with odds

ratios (OR) comparing the group with the higher rate to the group with the lower rate. For sentiment analysis of the participants comments, Wilcoxon rank-sum test (nonparametric test) was used to compare if the overall sentiment of the group deviated from neutral (alternative hypothesis: true location shift is not equal to zero).

Hypotheses related to the survey were that dental professionals were concerned about the impact of COVID-19 on their dental practices and own well-being, but still be comfortable with their dental career choices, confidently prepared to resume dental practice despite concerns about challenges, long-term impacts, financial resources and efficiency. A level of significance of 0.05 was used for all statistical tests.

RESULTS

The survey study was implemented by use of organizational distribution avenues—TDA, SADDS and STOHN. A total of 7805 dental practitioners were invited to participate in this survey study.

Out of 7805 invited members, a total of 622 participated in the survey (different response rates from the participating organizations: 73% response rate from STOHN (120 members), 37% from SADDS (920 members) and a combined response rate of 8% for all participating organizations when combined with the response rate from TDA that had thousands of members). 572 participants completed the first part of the survey (general questions). Of that group, 514 (90%) completed the second clinical practice-related portion. At the time of taking the survey, 42 (7%) of total participants reported themselves or a household member having tested positive for COVID-19. Table 1 shows demographics as reported by participants. Figure 1 shows that 71% of participants were general dentists, 24% were dental specialists, and 5% were administration or allied dental staff (since majority of the members of participating organizations were dentists). Four out of ten participants in the first part of the survey identified as female, 44% were 55 years or older, 79% had been in dental practice at least 10 years, and 95% were dentists. Participants of the clinical practice-focused second part had nearly identical demographics as the participants of the first part.

General Challenges During the Pandemic

A series of questions asked participants to provide their opinions/beliefs using a 5-point scale: A common standard methodology for surveys was used to further compile the positive responses into one, and the negative responses into another: a positive response included words of agreement (might/slightly/somewhat/moderately-very/strongly-agree/yes), and a negative response included words of disagreement (neither/might not-disagree/not/no). The results of this part of the survey are shown in Table 2.

More than half the participants found working during the pandemic difficult (~60%). Participants were concerned about the impact of COVID-19 on their general health, safety and well-being (77%), and even more so about the impact to their dental practice (90%). However, 95% of participants were satisfied with the resources their dental office provided to help support them during the pandemic. There was a statistically significant difference between males and females regarding concern about general health, with 83% of females being concerned (95% CI of 78% to 88%) compared to 72% of males being concerned (95% CI of 67% to 77%), with OR=1.86 and p-value = 0.003. There was also a statistically significant difference by age, with participants in the highest age group (55+) more likely to respond that work was difficult during the COVID-19 pandemic [66% (CI: 60% to 72%) in oldest age group vs 56% (CI: 51% to 61%) in other age groups, with OR=1.55 and p-value = 0.043]; possibly due to the fact that older adults (with pre-existing health conditions) seem to be at a higher risk for developing more serious complications from COVID-19. There were no statistically significant differences by job function or years of experience.

Another question asked participants to rank order the importance of their main sources of information to keep updated regarding COVID-19 (Figure 2). Two methods were selected to evaluate the responses: 1) Average Importance: where a value of 1 was assigned to the most important resource, 2 to the second most important and so on, after which a mean value of the importance score across all participants was calculated, and 2) Favorability Rating: which reported the percentage of participants that ranked the resource in the top/bottom two.

The participants rated the COVID-19 website and internet search engines in the top 2 of importance more often (84%) than any other resource and had the fewest number of members rate it at the bottom. Journals and publications, despite the longer lead time to publish, were rated in the top 2 by 58% of the participants. Television and news were rated at the bottom by more than half the participants. Social media sites had the lowest favorability rating, possibly a reflection of the generally older age of the participants.

Challenges Related to Resuming Dental Practice

Participants in the clinical practice-related part of the survey were asked to respond using a 5-point scale to 8 statements/questions regarding their opinions/beliefs on challenges related to dental practice during the pandemic. Responses are presented in Table 3, grouped into two response levels as described above.

Results of importance:

- Nearly all participants (98%) felt at least slightly prepared to resume dental practice. There was no statistical difference by age, sex, or years of experience.
- More than 75% of participants agreed (somewhat or strongly) that there are challenges and long-term impacts on dentistry that need to be considered. There was a statistically significant split in the strength of those opinions by sex; challenges were endorsed by 83% (CI: 78% to 88%) of women vs. 72% (CI: 67% to 77%) of men (OR=1.91, p-value = 0.006) and long-term impacts were identified by 92% (CI: 88% to 96%) of women vs 76% (CI: 71% to 81%) of men (OR=3.56, p-value <0.001).
- Over 95% of all participants were slightly or more confident of the safety precautions and PPE provided by their dental practice to protect them while performing aerosol-generating dental procedures. There were no significant differences by any demographic group.
- Only 21% (CI: 17% to 24%) of dentists felt that COVID-19 changed types of dental treatments offered to patients; perhaps because of the strict safety precautions and infection control measures already practiced by dentists who are, in general, at higher risk for infections, thus, are used to properly handling risks of infections. Females were also more likely than males to endorse changes in dental treatments [30% of females (CI: 24% to 37%) vs 18% of males (CI: 14% to 22%), OR=1.97 and p-value = 0.002]. At least two-thirds of all participants agreed that the precautions would adversely influence their efficiency, with no statistical evidence of difference by demographic group.
- About 70% would probably or definitely not reconsider their dental career choices and would still recommend studying dentistry to others. Women were more ambivalent about their career choices, with 36% (CI: 29% to 42%) unsure/thinking of reconsidering compared to 25% (CI: 20% to 30%) of men (OR=1.66, p-value = 0.013).

Participants were also asked to rank order the importance of 9 challenges while resuming dental practice during the pandemic (Figure 3). More than 60% of all participants rated PPE availability and having patients willing to come in for dental treatment in the top 3 of importance, far more often than any other challenge. The process of testing dental staff was rated as of least concern, with two-thirds of all participants rating this in the bottom 3.

Substantial differences by demographic group:

Grouping answers by top 3 and bottom 3 importance is a useful tool for comparing the challenges, but there has not been a statistical method established for this particular type of analysis. However, it is appropriate to identify

challenges with a substantial difference in opinion between demographic groups. For groupings that were relatively balanced (sex, age, years of experience), it was decided to use a 20-percentage point difference as evidence of a substantial difference.

- There were no substantial differences in opinion by sex or years of experience.
- There were two substantial differences by age group. Participants over 55 years were more likely than those 18-34 to rate patients willing to come in for treatment as a top-3 challenge (69% vs 47%). The youngest age group was less likely to identify financial losses of the dental practice as a top-3 challenge (36%, compared to 56% among all the other participants).
- Only one-fourth of dentists rated concern about outbreaks and spikes as a top-3 concern.
- Testing patients for COVID-19 infection was a low concern for dentists, with nearly two-thirds rating it in the bottom 3.
- 55% of dentists were worried about and rated the financial status of the dental practice in the top-3, and 23% of dentists rated it in the bottom 3.
- 43% of dentists rated concern about the resources of patients in the bottom 3.

Participants' Feedback and Sentiment Analysis:

The final question of the survey asked participants if they had any other comments regarding their experiences during the pandemic. Sentiment analysis of the comments was performed based on participants words: we extracted the individual words from the comments and identified words that indicate positive or negative sentiment to perform the sentiment analysis below:

- Most common/most frequently used words with size indicating frequency of use (Figure 4).
- Words that convey sentiments with size indicating frequency of use (Figure 5).

Sentiment comparison:

The overall sentiment for each provider based on the number of positive or negative words used in their comment ranged from -8 to +8 with the median being neutral. The overall mean was -0.19 with a standard error of 2.4. We used Wilcoxon rank-sum test to compare if the overall sentiment of the group deviated from neutral. We found that it did not. No statistically significant overall negative sentiment for the general dentist vs dental specialist was found.

DISCUSSION

Due to a high potential risk for COVID-19 transmission in dental clinics, a pause on dental practice early in the pandemic and strict infection control protocols were implemented to ensure a healthy safe environment and mitigate spread of the virus.[25]

Dental practitioners are at higher risk of contracting and/or transmitting COVID-19 infection due to the peculiar nature of dental procedures and direct face-to-face communication with patients.[10,11,13,15]

COVID-19 has significantly impacted dental practice with higher levels of stress and anxiety reported among dental practitioners, with anticipated long-term effects on dentistry.[13,17,25] Many countries, worldwide, evaluated the psychological impact of COVID-19 and reported high levels of stress, fear and/or anxiety [13,17-24] In agreement, the majority of participants in this study were concerned about impact of COVID-19 to their dental practice as well as on their general health, safety and well-being; females being more concerned. Also, most agreed there are challenges and long-term impacts on dentistry. More than half found working to be difficult during the pandemic (more in oldest groups).

An intervention to contain the spread of the virus, by limiting clinical activities during the pandemic, the economy of dental sector was profoundly impacted. In concordance with our findings, previous studies found that COVID-19 has profoundly impacted the economy of the dental practices.[25,33]

A study evaluating Turkish dentists found they received COVID-19 information primarily from official organizations websites and/or social media.[21] In concordance, this study found that the majority of participants rated COVID-19 websites and internet search engines as their main sources of information to keep updated regarding COVID-19. Further, a previous study at UT Health San Antonio Dentistry found its COVID-19 website and virtual faculty/staff meetings as main sources of information.[25]

Nearly all participants in our study felt prepared to resume dental practice and were confident of safety precautions and PPE their dental practice provided to protect them while performing aerosols generating procedures. Only 21% of dentists felt COVID pandemic changed dental treatment protocols, with at least two-thirds agreed that the precautions would adversely influence their efficiency. These findings are in agreement with those of a previous study conducted at UT Health San Antonio Dentistry regarding sources of information, feeling prepared and

confident of safety precautions while resuming dental practice, precautions adversely influencing their efficiency; however, 60% of their participants felt the pandemic changed dental treatment protocols compared to 21% reported in our study.[25]

In comparison, another study reported COVID-19 infection as highly dangerous by Italian dentists who didn't feel confident to safely resume dental practice, felt uncertain about infection control measures and PPE, and were apprehensive about health and economic impacts.[22] Other previous studies reported concerns about availability of PPE, and recent treatment protocol changes.[13,21,22,23]

Interestingly, in comparison to the previously discussed UT Health San Antonio Dentistry study[25] that evaluated some similar factors, but was conducted early in the pandemic; this study that evaluated a much broader dental community, and although was conducted during the COVID-19 peak period in Texas, the responses, overall, reflected less concerns, more satisfaction with resources provided for support, much higher levels of preparedness to resume dental practice and confidence of safety precautions, with significantly lower percentage of dentists felt the pandemic changed their dental treatment protocols. Majority of the participants rated PPE availability and having patients willing to come in for dental treatment as main challenges while resuming dental practice, yet, reported they would not reconsider their dental career choices and would still recommend studying dentistry to others. It may be worth pointing out that respondents to this study were male majority compared to female majority in the dental school study; and, as reported in the literature, female gender was associated with higher levels of stress, anxiety, depression and with a greater psychological impact of COVID-19.[20,25]

Findings of this study are consistent with the hypotheses related to this survey; that dental professionals were confidently prepared to resume dental practice despite being concerned about the impact of COVID-19 on their dental practices and own well-being, the challenges, long-term impacts, financial resources and efficiency during the pandemic.

Limitations:

Though this study was distributed during a peak period of COVID-19 in the second largest State in the U.S. that has a diverse population with many dental practitioners trained outside the State, people who were more interested to

participate may not reflect the rest of the dentist population. Future, nation-wide, larger sample size research should evaluate the long-term effects of the pandemic on dentistry and oral health of the population.

CONCLUSIONS

Almost all participants (98%) in this study felt prepared to resume dental practice, and were confident of safety precautions their dental practice provided to protect them while performing dental procedures. Only one-fifth of dentists felt COVID pandemic changed their dental treatment protocols, with more than two-thirds agreed that the precautions would adversely influence their efficiency.

Majority were satisfied with the resources their dental practice provided for support during the pandemic, were concerned about the impact of the pandemic to their dental practice and on their general health, safety and well-being, and agreed that there are challenges and long-term impacts on dental profession.

Most rated COVID-19 websites and internet search engines as their main sources of information to keep updated. Although the majority rated PPE availability and patients willing to come in for treatment as top challenges while resuming dental practice, they would still recommend studying dentistry and not reconsider their dental career choices.

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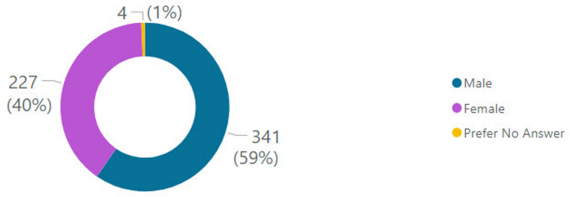
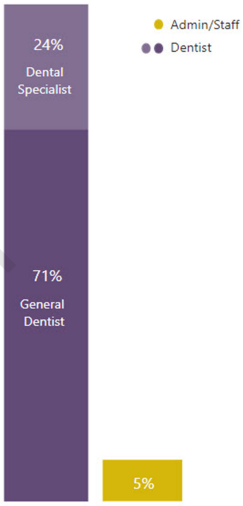
622	572	91%	90%
All Survey Participants	Qualified Participants	% Valid Surveys	% Clinical Participants

Participants by Sex

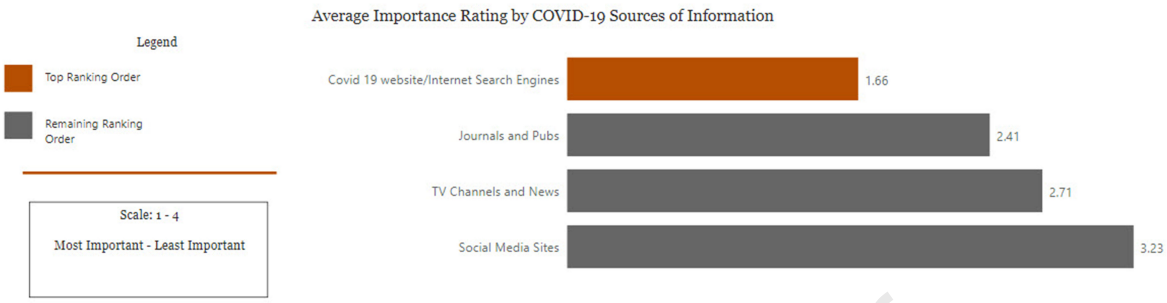


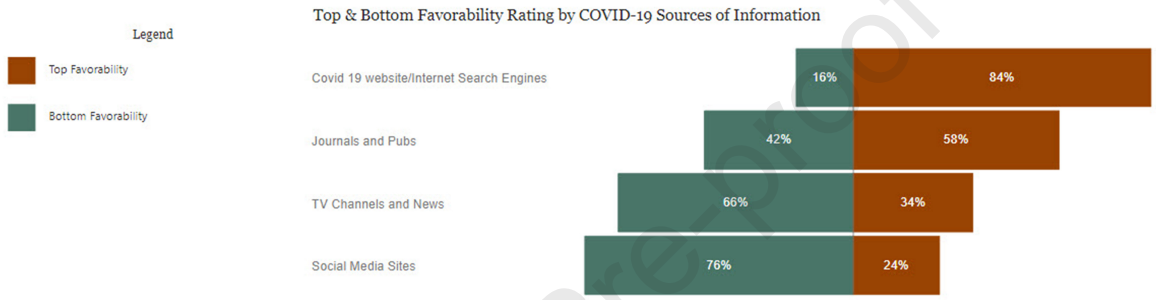
Participants by Job Function



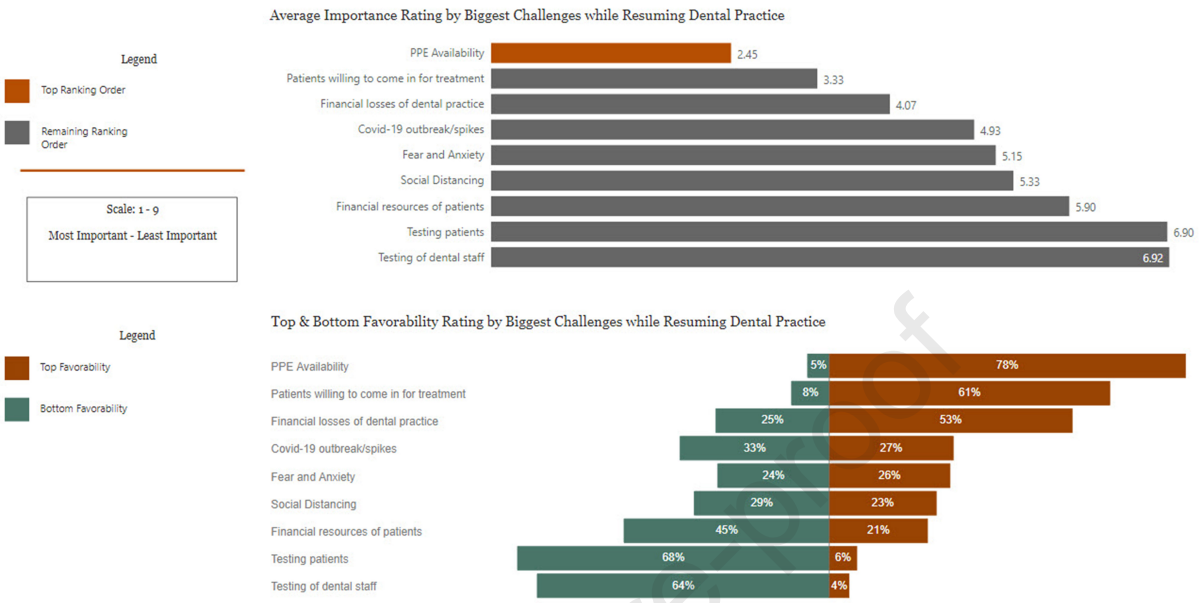
Participants by Dentistry-Related Work Experience

What are the main sources of information you use to keep updated regarding COVID-19?





What are your biggest challenges while resuming dental practice during the COVID-19 pandemic?



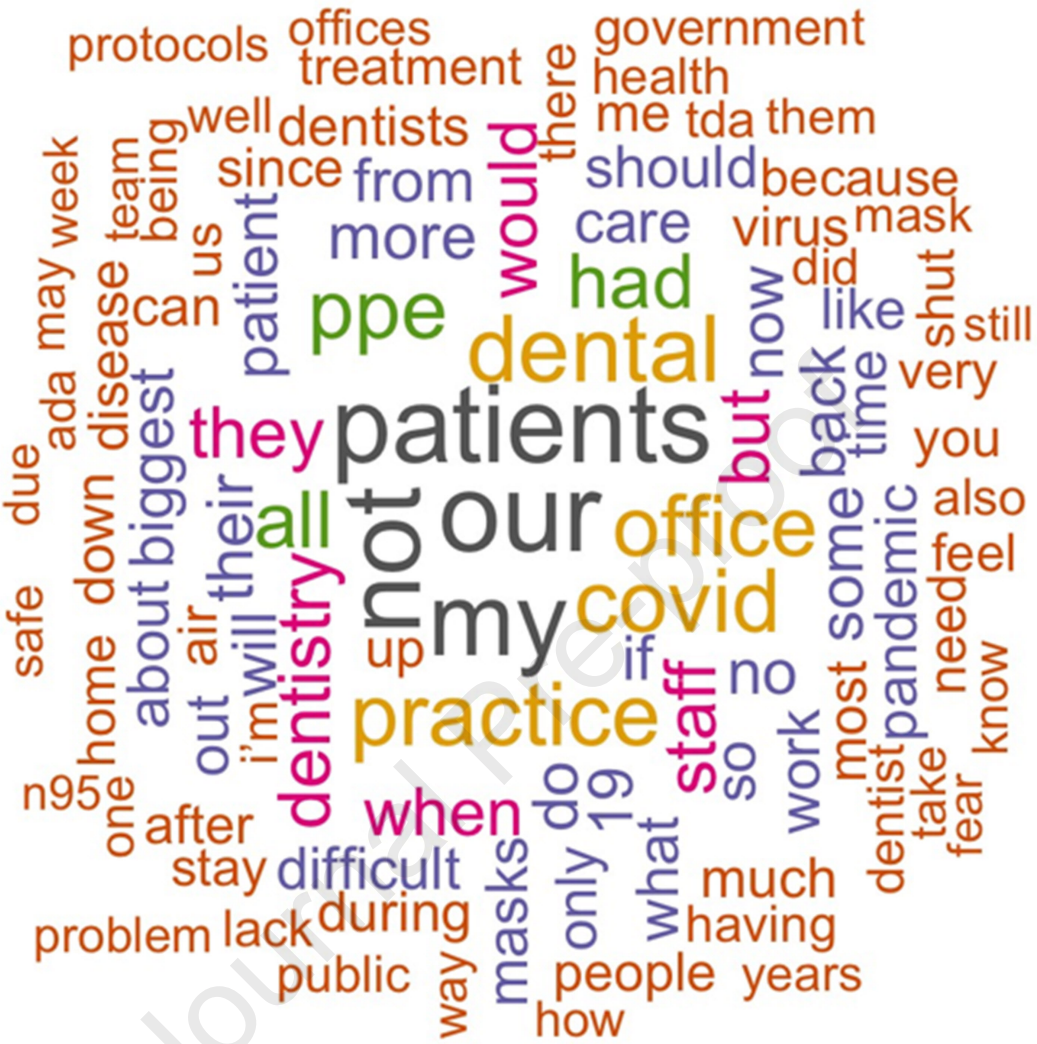


Table 1. Demographics and Distribution of Participants

Demographics		Completed part 1	Completed part 1and 2
Total Participants		**572**	**514**
Age	18-24	1 (0%)	0 (0%)
	25-34	80 (14%)	74 (14%)
	35-44	108 (19%)	98 (19%)
	45-54	131 (23%)	121 (24%)
	55 or older	252 (44%)	221 (43%)
Sex	Female	227 (40%)	197 (38%)
	Male	341 (59%)	313 (61%)
	Preferred not to Answer	4 (1%)	4 (1%)
Race	Asian	52 (9%)	46 (9%)
	Black or African American	14 (2%)	13 (3%)
	Hispanic or Latino	40 (12%)	64 (12%)
	Other	13 (2%)	11 (2%)
	White or Caucasian	423 (74%)	380 (74%)
Marital Status	Never Married	45 (8%)	39 (7%)
	Significant Other	16 (3%)	14 (3%)
	Married	478 (84%)	432 (84%)
	Widowed	7 (1%)	5 (1%)
	Separated/Divorced	26 (4%)	24 (5%)
Education	H.S./Some college	7 (1%)	4 (1%)
	Assoc. or Bach. Degree	14 (2%)	9 (2%)
	Master's Degree or PhD	18 (3%)	15 (3%)
	Professional Degree DDS/DMD	516 (90%)	470 (91%)
	Professional Degree/Other	17 (3%)	16 (3%)
Income	< $10,000	5 (1%)	5 (1%)
	$10,000 - $29,999	5 (1%)	2 (0%)
	$30,000 - $59,999	18 (3%)	14 (3%)
	$60,000 - $100,000	45 (8%)	38 (7%)
	> $100,000	499 (87%)	455 (89%)
Status			
	Admin/Staff	27 (5%)	19 (4%)
	Dentist	545 (95%)	495 (96%)
Years of Dentistry-Related Work			
	< 1 year	13 (2%)	13 (3%)
	1-3 years	29 (5%)	26 (5%)
	3-5 years	24 (4%)	20 (4%)
	5-10 years	54 (9%)	48 (9%)
	> 10 years	452 (79%)	407 (79%)

Table 2. Beliefs/Opinions by Sex (Dichotomous, with Chi-Square Test)

Response	Male	Female	p-value
How easy or difficult is it for you to work during the COVID-19 pandemic situation?			
Somewhat to Very Easy	133 (39%)	90 (40%)	0.88
Not Easy to Very Difficult	208 (61%)	137 (60%)	
How concerned are you about the impact of COVID-19 on your general health, safety and well-being (physical and psychological)?			
Not concerned	95 (28%)	39 (17%)	0.003
Slightly to very concerned	246 (72%)	188 (83%)	
How concerned are you about the impact of COVID-19 on your dental practice?			
Not concerned	37 (10%)	20 (7%)	0.43
Slightly to very concerned	304 (89%)	207 (91%)	
How satisfied are you with the resources your dental office is providing to help support you through the COVID-19 situation?			
Slightly to very satisfied	325 (95%)	214 (94%)	0.58
Not satisfied	16 (5%)	13 (6%)	

Table 3. Beliefs/Opinions Related to Resuming Dental Practice, by Sex (Dichotomous, with Chi-Square Test)

Response	Male	Female	p-value
How prepared do you feel to resume dental practice with the COVID-19 lockdown being lifted??			
Slightly to very prepared	310 (99%)	192 (97%)	0.30
Not prepared	3 (1%)	5 (3%)	
COVID-19 highlighted challenges with dental practice.			
Agree	226 (72%)	164 (83%)	0.006
Not agree/Disagree	87 (28%)	33 (17%)	
COVID-19 will have long-term impacts on the practice of Dentistry.			
Agree	238 (76%)	181 (92%)	<0.001
Not agree/Disagree	75 (24%)	16 (8%)	
Confidence in safety precautions and PPE during dental procedures that generate aerosols.			
Slightly to very confident	300 (96%)	189 (96%)	1.00
Not confident	13 (4%)	8 (4%)	
Has COVID-19 changed types of dental treatments you provide?			
Yes	57 (18%)	60 (30%)	0.002
Maybe/No	256 (82%)	137 (70%)	
COVID-19 might adversely influence your efficiency in performing dental procedures.			
Agree	200 (64%)	142 (72%)	0.069
Maybe/Disagree	113 (36%)	55 (28%)	
Would you reconsider your dental career choices?			
No	235 (75%)	127 (64%)	0.013
Maybe/Yes	78 (25%)	70 (36%)	
Would you still recommend studying dentistry?			
Yes	228 (73%)	128 (65%)	0.074
Maybe/No	85 (27%)	69 (35%)	